

IYEVIH', I.K., 3rd Tech Sci -- (disc) " ^{Preparation of} ~~Shrubland~~ spruce brushwood
And coniferous needles.
at ~~the~~ clearings of massive tree felling." Riga, 1958. 38 pp with
drawings (Latvian Agr "wood) 200 copies. List of author's works
at end of text (12 titles) (11, 37-59, 108)

37

IRVING, I. K.

IRVING, I. ; ABCLINS, J.

Amount of the clearing refuse in Latvia and possibilities of its utilization. p. 177.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESNOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademijs. Biologijas Zinatnu nodala) Riga, Latvia, No. 15, 1958. In Russian.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Unclass.

IEVINS, J. R.
ABOLINS, Janis; IEVINS, Imants; SKLENNIKS, C., red.; PILADZE, Z.,
tekhn. red.

[Processing of slash at lumbering camps] Siko cirsanas at-
lieku sastradasana mežrupniecības saimniecības. Rīga, Latvijas
PSR Zinatnu akademijas izdevniecība, 1961. 45 p. (MIRA 15:3)
(Latvia--Slash (Logging))

LEVIN, I.K. [Ievins, I.], kand.tekhn.nauk; GRISHANS, O.Ya. [Grisans, O.],
inzh.

The PLO-5 press for pressing small pieces of wood into building
blocks. Stroi, i dor. mash, 7 no.9:25-26 S '62. (MIRA 15:10)
(Construction equipment) (Building blocks)

27140-00

ACC NR. AP018678

SOURCE CODE: UR/0020/64/161/006/1437/1440

AUTHOR: Iyerusalimskiy, M. D. (Corresponding member AN SSSR); Noronova, N. M.34
B

ORG: none

TITLE: Qualitative relationship between the concentrations of metabolic products and rate of growth of microorganisms 27

SOURCE: AN SSSR. Doklady, v. 161, no. 6, 1965, 1437-1440

TOPIC TAGS: plant growth, plant metabolism, microbiology, biologic metabolism, biochemistry, plant chemistry, amino acid, protein, acetic acid, vitamin, bacteria, bacteriology

ABSTRACT: The Michaelis-Menten equation of a simple enzymatic reaction: $\mu = \mu_{\max} S / (K_s + S)$, where μ is the rate of growth per unit growing biomass, is used to characterize the complex process of growth, since in those cases when one of the enzymatic reactions is the "bottleneck" in metabolism and its rate limits the course of all the other biochemical transformations, growth of the biomass results. Equations incorporating the influence of inhibiting substances are derived. The hypotheses advanced on the influence of metabolic processes on growth were verified on a culture of *Propionibacterium shermanii*. Grown on media with lactate, the bacteria assimilate part of it as the carbon source and ferment all the remaining lactate to

Card 1/2

ACC NR: AP6018678

propionic and acetic acids; the energy liberated in the fermentation provides for the vital functions of the microorganisms, including their growth. The medium used contained all the required mineral salts, amino acids, and vitamins in excess; under these conditions growth could be limited only by the concentration of lactate itself or of the products formed from it. The theoretically calculated curve agreed satisfactorily with the empirical data. According to preliminary data, the same type of relationship exists between the acetic acid concentration and the rate of growth of acetic acid bacteria. Orig. art. has: 3 figures and 6 formulas. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 22Dec64 / ORIG REF: 003

Card 2/2 CV

IEVINS, S

GUDRINIECE, E.; IEVINS, A. _____

Academician Gustavs Vanags. Vestis Latv ak no.3:123-128 '61.

SHVARTS, Ye.; MEYSHE, A.; TYEVIN'SH, A. [Levins, A.]

Complex formation in solutions of tartaric and boric acid
mixtures. Zhur. neorg. khim. 10 no.5:1183-1185 My '65.
(MIRA 18:6)

ITYEVIN', A. F.

35188. O Metodakh Opredeleniya Kal'tsiya. Uchen. Zapiski (Latv. Gos. Un-T), Khim. Fak., T.1, 1949, s. 5-9. -- NA Latysh. Yax. -- Resyume Na Rus. Yax. -- Bibliogr: 17 Nazv.

80: Letopis' Zhurhal'nykh Statey, Vol. 48, Moskva, 1949

1. YEREMEL, A. A.: UPREKHA, H.
2. USSR (600)
4. Titanium.
7. Manganese detection of iron in the presence of titanium. Latv. PSR Bln. Akad. Vestis n. 1, 1950.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. OZOLS, J.; ^{LY}LEVINS, A.
2. USSR 600
4. Rocks - Analysis
7. Determination of potassium in rocks, Latv. PSR Zin. Akad. Vestis, No. 11, 1951.

91 Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

YEVINS, Alfreds, ed.

Soveshchanie po voprosam khimii boratov, Riga, 1952

Chemistry of borates; proceedings of the Conference on problems of the chemistry of borates. Riga, Izd-vo Akad. nauk Latvinskoi SSR, 1953. 122 p. (55-57606)

QD181.B1S6

✓ Crystallographic studies of calcium dihydrate $\text{CaB}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$.
 I. Ozols and A. Jevins. *Khim. Boratai. Materiatu Sim-*
tekanas po Vapriam Kaim. Boratai. Riga: Pedul
Atad. Nauk Latv. S. S. R. 1953, 117-22; Referat. Khim.
Fiz. 1955, No. 4793. The crystals were grown by the dif-
fusion method. A goniometric and x-ray study of rotation
around (00), (010), (100), and (110), along with an x-ray
reflex study of the face more accurate yielded the follow-
ing results. The crystals belong to the prismatic class of
monoclinic symmetry, the elementary nucleus: $a = 7.9060 \text{ \AA}$, $b =$
 1.0000 \AA , $c = 0.7230 \text{ \AA}$, $\beta = 90.001^\circ$, $\gamma = 90.000^\circ$, $\delta = 90.000^\circ$, $\epsilon = 1.8543$

YEVIN, SH. A. F., and OZOL, YA. K.

"Thermostat for Precise Determination of Parameters of an Elementary Crystal Nucleus"

Izv. AN Latvyskoy SSR, 5, 1953, pp 93-96

The construction of an X-ray thermostat for precise determination of parameters of a crystal lattice is described. The thermostat secures constant temperature with deviations not exceeding $0.01-0.05^{\circ}$. (RZhFiz, No 11, 1954)

SO: W-31187, 8 Mar 55

YEVINSH, A. F.

2438. Volimetric determination of potassium. A. F. Yevinch and Ya. K. Ozol (*J. anal. Chem. USSR*, 1953, 8, 53-54).—The aq. solution containing ~5 mg. of K per 1 ml. is mixed with an equal vol. of ethanol or methanol and treated dropwise with a reagent prepared by dissolving 20 g. of tartaric acid in 500 ml. of water, adding 8 g. of freshly distilled aniline or 7 g. of freshly distilled pyridine, and diluting with ethanol to 1 l. The reagent is added to the stirred solution until it is yellow to methyl-orange. The pptd. K bitartrate is filtered off after 2 hr., dissolved in water, and titrated with 0.05 N-NaOH, using phenolphthalein. The determination of K by this method is satisfactory in presence of Na, Li, and Mg, and errors are negligible.

G. S. SMITH.

Chem
4

(2)

MF
7-26-54

USSR.

540 736 3
 1959. An investigation of calcium carbonate, $\text{CaH}_2\text{O} \cdot 6\text{H}_2\text{O}$. A. F. LEVITSKY AND Y. A. K. ZILBER, *Zh. fiz. khim.*, 37, No. 10, 1510-15 (1963) in Russian.
 The dimensions of the rhombohedral crystal of $\text{CaH}_2\text{O} \cdot 6\text{H}_2\text{O}$ were found to be $a = 7.9416 \pm 0.0001$, $b = 6.1174 \pm 0.0001$, $c = 7.9332 \pm 0.0002$ Å and $\beta = 103.798 \pm 0.001^\circ$. The density (all measurements at 25°C) is found to be 1.870 g cm^{-3} , giving $Z_{\text{calc}} = 2.85$. Wavelengths used were Cu $K_{\alpha 1}$ at 1.537195 and 1.541232, and Fe $K_{\alpha 1}$ at 1.932016 and 1.936011.

BB
 12/11

YE VINSH, A. F.

USSR/Chemistry - Analytical chemistry

Card 1/1 : Pub. 145 - 3/10

Authors : Yevinsh, A. F., and Gudrinetse, E. Yu.

Title : Determination of K with sodium tetraphenyl borate

Periodical : Zhur. anal. khim. 9/5, 270-274, Sep-Oct 1954

Abstract : A new method of volumetric determination of K, with the aid of sodium tetraphenyl borate, is described. The K is separated by a surplus of titrated sodium tetraphenyl borate solution (according to the Ruedorf and Zannier method), and the surplus of the reagent is determined not by titration with a silver nitrate solution but with an ammonium chloride solution. Results obtained by the new volumetric determination methods are tabulated. Eight references: 5-German; 1-USA and 2-USSR (1925-1953). Tables.

Institution : State University, Riga, Latv-SSR

Submitted : July 15, 1954

USSR/ Chemistry - Crystallography

Card 1/1 : Pub. 22 - 21/49

Authors : Yevin'sh, A. F., and Ozol, Ya. K.

Title : Accurate determination of parameters of an elementary nucleus of triclinic crystals

Periodical : Dok. AN SSSR 98/4, 589-591, Oct. 1, 1954

Abstract : The possibility of applying the asymmetrical method of photographing rotating crystals for an accurate determination of all parameters of an elementary nucleus of triclinic crystals is debated. The six basic parameters of an elementary nucleus of triclinic crystals are described. Data obtained showed that the asymmetrical method offers the possibility of determining the linear parameters of an elementary nucleus with an accuracy of up to 1-2 units in the third decimal point, and angular parameters - up to hundredths of fractions of a degree. Ten references: 4-USSR; 3-USA; 2-German and 1-English (1929-1953). Table.

Institution : Acad. of Sc. Latvian-SSR, Institute of Chemistry

Presented by : Academician N. V. Belov, May 10, 1954

YEV. NSE, H.

Conditions of formation of various modifications of calcium carbonate. A. Ievina, E. Ols, and E. M. Guseva. *Zhurnal Fizicheskoi Khimii*, 1955, No. 2 (Article No. 84), 87-100 (in Russian). CaCO_3 was pptd. from a soln. of Ca(OH)_2 soln. by bubbling CO_2 until pH 8.2 was reached. Between 10 and 30°, the ppt. was calcite (I) with a trace of aragonite (II) towards higher temp. Crystals were rhombohedral, 3-15 μ at 10°; prismatic at higher temp., with length 7-11 μ at 50°, and becoming flatter with increase in temp. At 80-90°, the ppt. was mainly II, in forms of 2-4 μ platelets and prisms. Tech. CaCl_2 and chemically pure Ca(OH)_2 gave similar results. In the presence of sulfates of Ca, Na, Mg, and NH_4 , II was formed from 38° up; at 10-30°, the crystals were oval or tabular, 0.5-1 μ ; at 60°, mainly prisms with pointed ends; at higher temp., needles up to 22 μ long. In the presence of Cl^- , the ppt. was 0.3-0.7 μ rhombohedral crystals with high percentage of II. In similar formation of CaCO_3 from 5-10% suspensions of Ca(OH)_2 , 0.3-3 μ prisms or platelets of I were formed at 10-80° regardless of the presence or absence of CaSO_4 , $(\text{NH}_4)_2\text{SO}_4$, or NaCl . Only a trace of II was observed at 70-80°. It is concluded that CaCO_3 is formed by reaction of Ca^{++} with CO_3^{--} in Ca(OH)_2 soln., but by a reaction of solid Ca(OH)_2 with CO_2 in the case of suspension. The specific surface of the ppt., measured by the air-permeation velocity, was 3700-10200 sq. cm./g.; it increased with the pptn. temp. and decreased with concentration of CO_2 .

10-15
10-15
②

USSR/Physics - Crystallography

FD-3042

Card 1/1 Pub. 153 - 11/23

Author : Ozol, Ya. K.; Iyevin'sh, A. F.

Title : Precision determination of the parameters governing the elementary nucleus of crystals of a triclinial system by the asymmetric method

Periodical : Zhur. tekhn. fiz., 25, February 1955, 261-265

Abstract : On the example of copper sulfate the authors indicate the possibility for the precision determination of the parameters describing the elementary nucleus of crystals of the triclinial system with an accuracy up to 1-2 units in the third decimal figure for linear constants and up to hundredths of a degree for angular constants, namely only on the basis of x-ray data, as already done by the authors for crystals of the monoclinial system (ibid., 23, 1767, 1953; DAN SSSR, 91, 537, 1953). Eleven references.

Institution : -

Submitted : September 8, 1954

Iyevin'sh, A.F.

USSR/Inorganic Chemistry - Complex Compounds.

C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30279

Author : Iyevin'sh, A.F., Shvarts, Ye.M., Ozol, Ya.K.

Inst :

Title : Ammonium Pentaborate

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 10, 2236-2238

Abst : A study of some properties of $\text{NH}_4\text{B}_5\text{O}_{14} \cdot 4\text{H}_2\text{O}$ (I). On heating of I the water begins to be emitted above 80° ; in the interval $80 - 120^\circ$ three molecules of H_2O are lost and hygroscopicity of the preparation is thus increased; complete removal of water is takes place on heating at 250° . The elimination of NH_3 begins above 140° and is completed above 400° . The thermogram of I reveals endothermal effects: at $123 - 202^\circ$ (corresponding to the elimination of four molecules of water and a part of NH_3), at $279 - 305^\circ$ (elimination of almost all of NH_3) and at $432 - 439^\circ$ (apparently fusion

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USSR/Inorganic Chemistry - Complex Compounds.

C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30279

of B_2O_3). Solubility of I at 20, 30, 40 and 50° has been determined. X-ray study has shown that I is iso-morphous with $KB_2O_7 \cdot 4H_2O$ (Zachariasen W.H., Z. Kristallogr., 1938, 98, 256); lattice parameters of I: a 11.09, b 11.28, c 9.27 kX, ρ 1.55, ρ (x-ray) 1.549, z = 4.

Card 2/2

Levin'sh, A.F.

USSR / Structural Crystallography.

E-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9175

Author : *Levin'sh, A.F.*, Shvarts, Ye.M.

Inst : Institute of Chemistry, Academy of Sciences, Latvian SSR

Title : Certain Possibilities of Eliminating Errors Precise Determination of Parameters of the Elementary Cells of Crystals

Orig Pub : Latvijas PSR zinatnu Akademijas Vestis, Izv. AN Latv SSR, 1956, No 2, 117-126

Abstract : In the precise determination of the parameters of the elementary cells of crystals it is necessary to eliminate errors due to eccentricity of the axis of the specimen relative to the axis of the camera, and due to variation in the length of the film during development, and also errors due to absorption. It is shown how to eliminate errors in the photography in inexact cameras for asymmetrical loading of film. To eliminate errors due to eccentricity it is proposed to introduce a correction coefficient K, calculated for the given camera experimentally using the formula:

$$\Delta \varphi = \Delta \varphi = - \int (\cos \varphi / R) \cos \varphi \, d\varphi \quad \varphi = K \cos \varphi \sin \varphi$$

Card : 1/2

Card

: 1/2

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 12,
pp 97-98 (USSR) 15-57-12-17345

AUTHORS: Oshis, F., Iyevinysh, A. I

TITLE: Varieties of Calcium Carbonate (Razlichnyye modifikatsii karbonata kal'tsiya)

PERIODICAL: Uch. zap. Latv. un-t, 1956, Vol 9, pp 3-21

ABSTRACT: Calcium carbonate (KK) occurs naturally in the form of calcite and aragonite; aside from these, the following less stable anhydrous crystalline modifications of KK are produced experimentally: waterite of the trigonal system and ml-KK of the hexagonal system. Both of these are sometimes found in nature. At the temperatures below 20°, there exists a monoclinic hexahydrate of KK and an amorphous KK in the form of a gel. An experimental study has been conducted to determine conditions under which these varieties are formed. Carbonization by means of carbon monoxide was tried out, with the gas obtained from limestone or from a chemically pure

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15-57-12-17345

Varieties of Calcium Carbonate (Cont.)

calcium hydroxide. It was established that the variety of calcium carbonate produced, its habit, size, type of aggregation and specific surface depended on the temperature of carbonization and on the presence of extraneous matter. If the carbonizing atmosphere contained admixtures which could serve as nuclei of crystallization, then calcite was formed at all the temperatures up to 100°; in the absence of such nuclei, amorphous KK was precipitated from the solution. The purest waterite was obtained at the temperature of 20° in the absence of nuclei of crystals, if the carbonization was discontinued at the moment when the atmosphere became neutral. With the rise of temperature the content of rhombohedral calcite crystals was increased and waterite decreased. At 40°, somatic forms appear, at over 40° prisms are developed on crystals of calcite instead of rhombohedrons, which fact is augmented by an increase in the duration of carbonization. Calcite--the most stable modification--is also formed out of less stable modifications: at below 20° calcite is formed from hexahydrate, above this temperature calcite can be formed either from supersaturated solutions or by a crystallization of gel of KK. Aragonite is formed at increased

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15-57-12-17345

Varieties of Calcium Carbonate (Cont.)

temperatures. KK, containing a small amount of aragonite, is formed during a carbonization of calcium hydroxide at 70°; at 80° to 90°, the amount of aragonite increases. Aragonite (free of calcite) is successfully obtained when a solution of calcium bicarbonate (which is saturated at a normal temperature) is heated so that the temperature of crystallization is near 100°. When a pure aqueous solution of calcium bicarbonate is heated, ml-carbonate in the form of small hexagonal stars and lamellae with Np of 1.550 is obtained at 60° to 65°. At this temperature, under acid conditions, the product is comparatively stable. Waterite obtained in the form of spherulites by carbonizing a solution of calcium hydroxide appears to be uniaxial and negative; its Ng is 1.584. Waterite and ml-KK produce identical X-ray pictures. At 419° to 485° waterite passes into calcite. Its thermal curve shows an exothermic maximum at 459°. Transition of the Ural aragonite into calcite takes place at 444° to 504° (endothermic minimum at 472°). The presence of soluble chlorides and sulfates affects the form of crystals and changes their surface. Chlorides increase the number of crystals and decrease their sizes. Sulfates cause the formation of somatic forms similar

Card 3/4

15-57-12-17345

Varieties of Calcium Carbonate (Cont.)

to aragonite. Albumins and carbohydrates increase the solubility of calcium hydroxide and at an increased temperature aid the formation of stable modifications of the investigated compounds. The presence of Mg ion neither interferes nor aids in the formation of aragonite.

Ye. Ye. Kostyleva

Card 4/4

YEVINSH, A.F.

AUTHOR: BANKOWSKIJ, U.A., JEWINJSCH, A.F. PA - 2781
 TITLE: Composition- and Dissociation Constant of Compounds of Nickel, Cobalt, Iron, and Manganese with Tritio-Carbon Dioxide Salts. (Sostav i konstanti dissoziacii kompleksow, Nielja, kobalta, gjelesa i marganza s soljami tritiougolnoj kisloti, Russian)
 PERIODICAL: Latvijas PSR Zinatnu Akad. Vestis, 1957, Vol 1, Nr 3 (116), pp 123 - 131 (U.S.S.R.)
 Received: 6 / 1957 Reviewed: 6 / 1957
 ABSTRACT: The composition of the compounds of Ni-, Co-, Fe-, and Mn- tritio-carbonates with K_2CS_3 -, Na_2CS_3 -, $BaCS_3$ -tritio carbonates was experimentally determined. $Ba[Ni(CS_3)_2]$ shows its maximum density at a concentration of the ion $(S_3 - 4.10^{-y} - 6.10^{-y} \text{ g-Ion/L}, [Co(CS_3)_2]^{--}$ at $CS_3 \text{ } 8.10^{-y} \text{ g-Ion/L}$ and $[Fe(CS_3)_2]^{--}$ at $CS_3 \text{ } 6.10^{-y} \text{ g-Ion/L}$

Conclusions:

1) The composition of the compounds of nickel, cobalt, iron, and manganese with tritio carbon dioxide salts is known and has the formula $[Me(S_3)_2]^{--}$, where Me are the bivalent elements Ni, Co, Mn, and Fe.

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PA - 2781

Composition- and Dissociation Constant of Compounds of Nickel,
Cobalt, Iron, and Manganese with Tritio-Carbon Dioxide Salts.

2) The dissociation constant of the compounds is at $\text{Ni}(\text{CS}_3)_2$ -
 $K = 0,5 \cdot 10^{-8}$ at $[\text{Co}(\text{CS}_3)_2]^{--}$ - $K = 0,8 \cdot 10^{-8}$, and at
 $[\text{Fe}(\text{CS}_3)_2]^{--}$ - $K = 0,5 \cdot 10^{-9}$.

ASSOCIATION: Chemical Institute of the Academy of Science of the Latvian SSR
 PRESENTED BY:
 SUBMITTED:
 AVAILABLE: Library of Congress.

Card 2/2

5dz

AUTHORS: Shvarts, E.M. and Yevin'sh, A.F.

TITLE: State of Double-Salt Type Borates in Aqueous Solution. (Sostoyanie Boratov Tipa Dvoynykh Soley v Vodnom Rastvore).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry, Vol. II, No. 2, pp. 439-443. (U.S.S.R.). 1957

ABSTRACT: In this investigation determinations of electrical conductivity of borate solutions were made and boric acid was extracted from such solutions by isoamylalcohol. It was found from the results that various borates with two different cations, one of which is an alkali metal ion and the other an alkaline earth metal ion, are double-salt type compounds. In aqueous solution these borates decompose into monoborates and free boric acid. The boric acid thus liberated prevents further hydrolysis of the alkaline-earth metal monoborates.

There are 12 references of which 10 are Russian.

There are seven Tables.

The work was carried out at the Chemistry Institute of the Academy of Sciences of the Latvian SSR.

Received 28 September, 1956.

Card 1/1

IVEVIN'SH, A.F.

SHVARTS, Ye.M.; IYEVIN'SH, A.F. [Jovins, A.F.].

Borotartrates of alkaline earth metals. Part 2: Ammonium strontium
borotartrate. Zhur. neorg. khim. 2 no.8:1757-1760 Ag '57.
(MIRA 11:3)

1. Institut khimii AN Latvyskoy SSR.
(Ammonium strontinum borotartrate)

Iyevin'sh, A.F.

PHASE I BOOK EXPLOITATION

SOV/4226

Riga. Universitatē

Uchenyye zapiski, t. 14, Khimicheskiy fakul'tet, 4. (Scientific Notes, Vol 14, Chemistry Faculty, 4) Riga, 1957. 251 p. 550 copies printed.

Eds. (Title page): A.F. Iyevin'sh, Professor, Doctor of Chemistry; L.K. Lepin', Member of the Academy of Sciences Latvinskaya SSR, Professor, Doctor of Chemistry; G.Ya. Vanag, Professor, Doctor of Chemistry; Tech. Ed.: A. Peterson.

PURPOSE: This book is intended for inorganic chemists and scientists in the ceramics industries.

COVERAGE: The book contains 22 articles on organic chemical synthesis and analysis and the physicochemical properties and compositions of ceramic and refractory materials. No personalities are mentioned. Figures, tables, and references accompany the articles.

TABLE OF CONTENTS:

1. Iyevin'sh, A.F., E.Yu. Gudrin'yets, Yu.A. Bankovskiy, Ya.A. Tsirul. Reactions of Divalent Iron With 1, 1-Dimethyl-3, 5-cyclohexanedione Trioxime 3
Card 1/4

AUTHORS:

Vimba, S. G., Iyevin'sh, A. F., Ozol. Ya. K.

78-2-11/43

TITLE:

The Tetrahydrate of Barium-Diborate - $BaB_2O_4 \cdot 4 H_2O$
(Tetragidrat diborata bariya - $BaB_2O_4 \cdot 4 H_2O$)

PERIODICAL:

Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2,
pp. 325-327 (USSR)

ABSTRACT:

The synthesis of the tetrahydrate of barium-diborate is described. $BaB_2O_4 \cdot 4 H_2O$ is produced according to the following reaction: $BaCl_2 + Na_2B_4O_7 + 2 NaOH + 3 H_2O = BaB_2O_4 \cdot 4 H_2O + Na_2B_2O_7 + 2 NaCl$. The precipitated crystals are white. By crystallization at a pH-value of the solution of 11,7 crystals with a grain size of 2 mm are obtained. The analysis of the crystals is as follows

found % : BaO - 51,81 B_2O_3 - 23,49 H_2O - 24,58

calculated % : BaO - 51,98 B_2O_3 - 23,60 H_2O - 24,62

The thermal analysis shows an endothermal effect at $109^{\circ}C$ and a second endothermal effect, which is connected with the

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IYEVIN'SH, A. P.

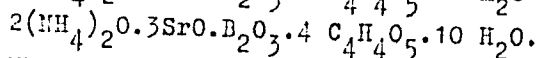
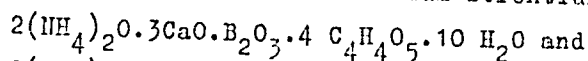
AUTHORS: Shvarts, Ye. M., Iyevin'sh, A. P.

78-3-5-19/39

TITLE: Borotartrate of Alkaline Metals (Borotartraty shchelochnozemel'nykh metallov)
III. Boroditartrate of Ammonium-Calcium and Ammonium-Strontium (Boroditartraty ammoniya-kal'tsiya i ammoniya-strontsiya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1177 - 1180 (USSR)

ABSTRACT: The production conditions for the boroditartrates of ammonium-calcium and ammonium-strontium were investigated:



The crystallization velocity of the salts depends on the p_{H} -value of the solution and on the ratio between tartaric acid and boric acid in the reaction mixture. The method of production of boroditartrate of ammonium-strontium is more difficult. It can be produced at a p_{H} -value of 8 and

Card 1/3

70-3-5-19/39

Borotartrate of Alkaline Metals. III. Boroditartrate of Ammonium-Calcium and Ammonium-Strontium

at a ratio between tartaric acid and boric acid of 4:1. Some properties were determined from the produced compounds: solubility in water, specific weight. Also, the dehydration and the separation of ammonia were determined by means of thermographic analysis. The solubility of boroditartrate of ammonium-calcium amounts to 1.77 g/l at 15-16°C, that of boroditartrate of ammonium-strontium to 1.83 g/l at 19-20°C. The specific weight of boroditartrate of ammonium-calcium amounts to 1.55 g/cm³ at 25°C, that of boroditartrate of ammonium-strontium, 1.95 g/cm³. The dehydration and the separation of ammonia was determined at temperatures of 50, 80, 120, 180, 250 and 300°C. Ammonia is already separated at 100-120°C, and at 250-260°C a complete separation of ammonia occurs. The thermograms of boroditartrate of ammonium-calcium show two different endothermal effects at 50-113°C and at 136-249°C. In the thermograms of boroditartrate of ammonium-strontium, endothermal effects first occur between 43

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78-3-5-19/39

Borotartrate of Alkaline Metals. III. Boroditartate of Ammonium-Calcium and Ammonium-Strontium

and 235°C, which correspond to the dehydration and to the separation of NH_3 . There are 5 figures, and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR (Institute of Chemistry, AS Latvian SSR)

SUBMITTED: May 21, 1957

AVAILABLE: Library of Congress

1. Alkaline metals-- Borotartrate--Production 2. Ammonium-calcium--Derivatives 3. Ammonium-strontium--Derivatives

Card 5/5

AUTHORS: Gudrinietse, E. Yu., Iyevin'sh, A. F., Vanag, G. Ya. SOV/156-58-4-34/49

TITLE: The Sulfurization of Cyclic β -Diketones With Sulfuric Acid in the Presence of Acetic Anhydride (Sul'firovaniye tsiklicheskikh β -diketonov sernoy kislotoy v prisutstvi uksusnogo angidrida)

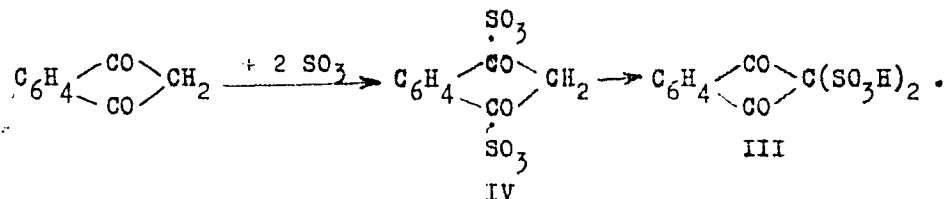
PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 746-750 (USSR)

ABSTRACT: The following cyclic β -diketones were sulfurized with 98% sulfuric acid in the presence of acetic anhydride: 5,5-dimethyl cyclohexanedione-1,3; 5-phenyl cyclohexanedione-1,3; indandione-1,3; 2-phenyl indandione-1,3; perinaphth-indandione and bindon. The sulfurized β -diketones were separated in form of sodium or potassium salts. The mechanism of the sulfurization with sulfuric acid in the presence of acetic acid probably proceeds according to intramolecular rearrangements. At first a dark-red colored product is formed. After 5-15 minutes a white deposit (III) precipitates.

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SOV/156-58-4-34/49

The Sulfurization of Cyclic β -Diketones With Sulfuric Acid in the Presence of Acetic Anhydride



There are 1 table and 12 references, 14 of which are Soviet.

ASSOCIATION: Kafedra organicheskoy khimii Latviyskogo gosudarstvennogo universiteta im. Petra Stuchki (Chair of Organic Chemistry at the Latvia State University imeni Petr Stuchka)

SUBMITTED: April 28, 1958

Card 2/2

172. VESTIS, 8, 1958
IEVINS, A.; ~~SVARCA, E.~~

GENERAL

PERIODICAL: VESTIS, Vol. 8, 1958

IEVINS, A.; ~~SVARCA, E.~~ Boroditartrates of lithium and sodium. In Russian. p. 99.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

AUTHORS: Kuznetsov, V. I.; Bankovskiy, Yu. A.;
Iyevin'sh, A. F. 15-13-3-1/27

TITLE: The Analytical Use of 8-Mercaptoquinoline (Thiooxine) and Its
Derivatives (Analiticheskoye primeneniye 8-merkaptokhinolina
(tioksinina) i yego proizvodnykh)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, No. 3, pp. 267-
-273 (USSR)

ABSTRACT: 8-mercaptoquinoline has been known for a long time (Ref 1), but
hitherto has not been met with any interest in analytical chem-
istry (Ref 2). The reason for this was the difficulty of synthe-
sis and the low stability of this compound and its derivatives
which rapidly oxidize at the air. One of the authors of the pre-
sent paper worked out a synthesis of 8-mercaptoquinoline (Ref 3)
whereby it became easily accessible. Moreover it was found that
the salt of hydrochloric acid is resistant to atmospheric oxygen
and that it can therefore serve for storing 8-mercaptoquinoline.
The properties of anhydrous 8-mercaptoquinoline and of the fol-
lowing derivatives are described in the present paper: the di-
hydrate, the hydrochloride, the sodium salt and the disulfide
which is produced from 8-mercaptoquinoline by oxidation. The

Card 1/4

The Analytical Use of 8-Mercaptoquinoline (Thiocexine)
and Its Derivatives

75-15-3-1/17

authors also investigated the analytical properties and reactions of 8-mercaptoquinoline. This new reagent precipitates the elements of the H_2S -group and of the ammonium sulfide group. Some elements which beside the Me-S bond also yield a stable bond with the nitrogen of the quinoline ring are even precipitated from highly acid solutions. The qualitative reactions of proof based on this fact are distinguished by a high sensitivity. A number of elements are liberated as compounds of certain compositions which can be weighed out as such. The 8-mercaptoquinolates of Cu, Zn, Hg^{2+} , Tl, Sr(II), Pb, As(III), As(V), Sb(III), Bi, V, Mo, Mn, Fe, Co, Ni, Pd are well soluble in organic solvents (especially in bromobenzene, bromoform, benzene and toluene) and can be extracted, whereby the separation of small amounts of one element from very large amounts of other elements which do not react with the reagent is made possible. The solutions of some 8-mercaptoquinolates in organic solvents are intensively colored and can be photometrically determined. The sensitivity of these reactions is higher than in the corresponding 8-hydroxyquinolates and approaches the sensitivity of dithi-

Card 2/4

The Analytical Use of 8-Mercaptoquinoline (Thiooxine) and
Its Derivatives

15 12 1972

zonates. As compared to dithizone, 8-mercaptoquinoline has the advantage of a higher specificity. The use of the new reagent also permits the titrimetric determination of a number of elements, as 8-mercaptoquinoline is by oxidizing agents easily converted to the disulfide. A disadvantage of the reagent is its easy oxidizability. In acid solutions, however, the oxidation by atmospheric oxygen takes place so slowly that it does not disturb the analysis. As 8-mercaptoquinoline is also resistant to very strong reducing agents, elements being present in their lowest stages of valence (Mo, W, etc.) can be complexly bound by it, which is impossible with dithizone. As compared to thionalide, 8-mercaptoquinoline possesses the advantage that it precipitates a number of elements even from very highly acid solutions. In subsequent communications the determination of different elements by means of the new reagent shall be individually described. There are 3 figures, 1 table, and 14 references, 6 of which are Soviet.

Card 3/4

The Analytical Use of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives 75-113-1/27

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR i Institut khimii AN Latvyskoy SSR
(Institute of Geochemistry and Analytical Chemistry named V.I. Vernadskiy AS USSR and Institute of Chemistry AS Latvian SSR)

SUBMITTED: March 28, 1957

1. Quinolines---Applications

Card 4/4

AUTHORS:

Bankovskiy, Yu. A., Iyevin'sh, A. F.

SOV/75-13-5-1/24

TITLE:

Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives (Analiticheskoye primeneniye 8-merkaptokhinolina (tioksina) i yego proizvodnykh) Communication II. Photometric Determination of Small Amounts of Palladium (Soobshcheniye II. Fotometricheskoye opredeleniye malykh kolichestv palladiya)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 5, pp 507-512 (USSR)

ABSTRACT:

Many methods for detecting and determining palladium that make use of its high reducibility and the resulting formation of deeply colored colloidal solutions (Refs 1-7) or of measuring the optical density of colored complex compounds of palladium, are appropriate only for the determination of larger amounts of palladium because of their comparatively low sensitivity. In this respect, organic reagents, especially those that contain the p-nitrosophenylamine group, are more important (Refs 14-17). These methods have the disadvantage that neutral salts affect the determination and that series of foreign ions have to be separated at first. A number of photometric (Refs 18-24) and

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30V/75-13-5-1/24
Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication II. Photometric Determination of Small Amounts of Palladium

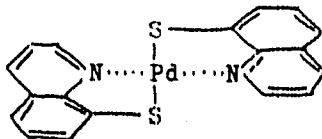
gravimetric (Refs 25-34) methods for the determination of palladium are quoted in the literature on the subject. A highly sensitive reagent for palladium is thiooxine, which may determine this element under certain conditions, also with other elements present. Thiooxine forms, with Pd(II) salts, the bright red palladium-8-mercaptochinolate $\text{Pd}(\text{C}_9\text{H}_6\text{NS})_2 \cdot \text{H}_2\text{O}$ which is insoluble in water, but soluble in various organic reagents by forming deeply colored solutions (pink or orange) (Ref 37). For the extraction of this compound especially chloroform, chlorobenzene, and bromobenzene can be used. The compound is somewhat less soluble in carbon tetrachloride, diethylether, amylacetate, and carbon disulphide; it is insoluble in aliphatic hydrocarbon. The high solubility in organic solvents, the intense color of these solutions and the high acid resistance of this compound suggest that it is an intermolecular salt. Presumably a stable pentacyclic ring is formed in the reaction of thiooxine with palladium ions, in which palladium substitutes the hydrogen of the mercapto-group and at the same time is bound

Card 2/4

SOV/75-13-5-1/24

Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication II. Photometric Determination of Small Amounts of Palladium

by coordination to the nitrogen of the quinoline ring:



This compound is very stable. It can be completely extracted from highly acid solutions (4n HCl) and also from strongly alkaline solutions. The absorption spectrum of the solutions in chloroform shows three maxima, of which the maximum at 272 mμ is the most sensitive one. This was, however, measured in the visible scope of the spectrum (maximum at 485 mμ) in a Pulfrich photometer. The solutions conform to Beer's law up to 278 /ml when extracted from 6n HCl. In order to eliminate the interference of foreign ions thiourea is added in highly acid solution as a screening complex-forming substance. With this method, palladium can be determined in the presence of Pt, Os, Ru, Rh, Ir, Cu, Ag, Au, Hg, Fe, Ni, Co, Zn, Cd, Ge, Mn, Tl, As, Sb, Bi, Sn, Se, W, Mo, Pb, U, V, and of other elements. The results

Card 3/4

SOV/75-13-5-1/24

Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication II. Photometric Determination of Small Amounts of Palladium

of several determinations are quoted. Oxidizing agents interfere with the determination as they oxidize the reagent. A very large surplus of the reagent is desirable in the determination, as this reduces the dissociation of the precipitate. A photometric method for the determination of 5-270 μ of palladium in the presence of all the foreign ions listed was worked out. The working directions are described in detail. There are 3 figures, 1 table, and 40 references, 12 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latviyskoy SSR, Riga (Institute of Chemistry of the Academy of Sciences, Latviyskaya SSR, Riga)

SUBMITTED: May 16, 1957

Card 4/4

5(2), 5(3)

AUTHORS:

Bankovskiy, Yu. A., Iyevin'sh, A. F.

SOV/75-13-6-3/21

TITLE:

Analytical Application of 8-Mercapto Quinoline (Thiooxine) and Its Derivatives (Analiticheskoye primeneniye 8-merkaptokhinolina (tioksina) i yego proizvodnykh) Communication III. Photometric Determination of Small Amounts of Copper (Sobshcheniye III. Fotometricheskoye opredeleniye malykh kolichestv medi)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 643-646 (USSR)

ABSTRACT:

Peyve and Ivanova (Ref 12) used the reagent thiooxine suggested by the authors of the present paper for a rapid direct photometric determination of copper in soils without preceding separation of iron and manganese. In the present paper the influence exercised by other elements upon the accuracy of this determination and the limits of its applicability are investigated. Thiooxine forms in neutral, acid and alkaline solutions with Cu^{2+} ions the dark-brown salt $\text{Cu}(\text{C}_9\text{H}_6\text{NS})_2 \cdot 1/2 \text{H}_2\text{O}$ which is insoluble in water. The crystal water in this compound was determined according to Chugayev's and Tserevitinov's

Card 1/4

Analytical Application of 8-Mercapto Quinoline
(Thiooxine) and Its Derivatives. Communication III.
Photometric Determination of Small Amounts of Copper

SOV/75-13-6-3/21

method (Ref 13) for the determination of active hydrogen. For the analysis of the complex this was dried in vacuum at 14° whereby possibly part of the crystal water is lost so that the copper thiooxinate actually might contain a whole and not only a half crystal water. The complex is well extractable with chloro benzene, bromo benzene, chloroform, amyl acetate and isopropyl alcohol, to a smaller degree with benzene, toluene, xylene and dichloro ethane and very difficultly with carbon tetrachloride and carbon disulfide. In aliphatic hydrocarbons the complex is insoluble. The extraction of the complex takes place quantitatively both from alkaline and acid solution. The absorption spectrum was taken by means of a SF-4 spectrophotometer. The spectrum shows 3 maxima: at 252.5 mμ, at 275 mμ, and in the visible range at 431 mμ. The corresponding molar extinction coefficients have the values 31,000, 29,000 and 7,530. The solutions of the complex which are colored intensely dark-brown, obey Beer's law up to amounts of 8 γ Cu in 1 ml chloroform. Very high concentrations of alkali metals and metals of the alka-

Card 2/4

Analytical Application of 8-Mercapto Quinoline .
(Thiooxine) and Its Derivatives. Communication III.
Photometric Determination of Small Amounts of Copper

BOY/75-13-6-3/21

line earths, Al, Ti, Zr, Th, Hf and other elements do not interfere with the copper determination. Pd, Ru and Cs must be absent. Pt does not interfere with up to quantities of 50% approximately. The thiooxinates of Ag, Hg and Au are not extractable with organic solvents. Silver, however, interferes with the determination of small amounts of copper, since this is co-precipitated with the very stable Ag thiooxinate.

Ordinary quantities of Hg^{2+} and Au^{3+} (4 and 10 mg, respectively) do not interfere with the copper determination. The thiooxine complex of molybdenum is stable in acid solutions. Amounts of 5-10% Mo can be masked by ammonium thiocyanate. Tungsten does not interfere with as its thiooxinate is insoluble in chloroform. Considerable quantities W can be kept in solution by oxalic acid. Antimony in amounts > 50% slightly increases the results of the determination of 40% Cu. It is an important advantage of this method that even very large amounts of bismuth do not interfere with the determination of copper. High concentrations of the generally used anions

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Analytical Application of 8-Mercapto Quinoline
(Thiooxine) and Its Derivatives. Communication III.
Photometric Determination of Small Amounts of Copper

SOV/75-13-6-3/21

(Cl⁻, Br⁻, F⁻, SO₄²⁻, tartrate, oxalate, etc.) do not influence the accuracy of the determination. In alkaline solution cyanide ions prevent, if they are present in considerable excess, the complete extractability of copper. Furthermore, a photometric method of the determination of copper traces (3-30γ) in the presence of very large amounts of Bi, Mn, Fe, Ni and other elements was devised. The procedure is described there in detail. There are 3 figures, 1 table, and 13 references, 8 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR, Riga (Riga
Institute of Chemistry of the Academy of Sciences Latvyskaya
SSR)

Card 4/4

BAKOVSKIY, Yu.A., BAUMAN, V.K., IYEVIN'SH, A.F. [Ievin's, A.F.]

Colorimetric micromethod for determining calcium in biological material [with summary in English]. Biokhimiia 23 no.6:845-848
M-D '58 (MIRA 11:12)

1. Institut khimii i Institut biologii AN Latvyskoy SSR, Riga.
(CALCIUM)
(COLORIMETRY)
(MICROCHEMISTRY)

IYEVIN'SH, A. F.

79-1-20/63

AUTHORS: Gudriniyetse, E. Yu. , Iyevin'sh, A. F. , Vanag, G. Ya.

TITLE: The Sulfonation of β -Diketones With Dioxane-Sulfotrioxide
(Sul'firovaniye β -diketonov dioksan - sul'fotrioksidom)
II. Indandione-1,3-Sulfonic Acid-2 and Its Salts (II. Indan-
dion-1,3-sul'fonovaya-2 kislota i yeye soli)

PERIODICAL: Zhurnal Obshchey Khimii. 1958, Vol. 28, Nr 1, pp. 95-100 (USSR)

ABSTRACT: In the preceding paper it was shown that indandione-1,3 is easily sulfonated with dioxane-sulfotrioxide (= D - SO₃) on which occasion indanione-1,3-sulfonic acid-2 is produced. In publications it is maintained that the sulfonation proceeds over the enole form (see formula (I)), on which occasion the addition product is then formed, which finally in the hydrolysis yields the sulfonic acid in our case (see the process of reaction). It was, however, not possible to isolate the intermediate product (II). On addition of the indandione to the solution of D - SO₃, a reaction immediately takes place, the dissolved substance warms up (cooling with water!) and after 2 - 3 minutes indandione-1,3-sulfo-

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79-1-20/63

The Sulfonation of β -Diketones With Dioxane-Sulfotrioxide. II. Indandione-1,3-Sulfonic Acid-2 and Its Salts

nic acid-2 (III) is precipitated. The solution of this precipitate in water does not show any reaction to the sulfate-ion from which follows that the assumed intermediate product (II) does not form. It seems that this reaction takes place immediately with the hydrogen of the active methyl group of indandione-1,3 that in other words the indandione joins the sulfuric-anhydride molecule under the formation of indandione-1,3-sulfonic acid-2 (III). In the case of an excess of D - SO₃ and at elevated temperatures indandione-1,3-disulfonic acid-2,2 (IV) is produced which is isolated as a sodium salt. The crystallized indandionsulfonic acid (III) could not be recrystallized. - Thus it was proved that the indandionsulfonic acid in contrast to 2-nitroindandione is easily converted to the enole-form and that either only one sulfo group or the sulfo group together with the enole group participate in its salification. The cobalt-, nickel- and manganese-salts of indandionsulfonic acid form complex compounds with pyridine. There are 6 references, 5 of which are Slavic.

Card 2/3

The Sulfonation of β -Diketones With Dioxane-Sulfotrioxide. II. Indandione-
1,3-Sulfonic Acid-2 and Its Salts 79-1-20/63

ASSOCIATION: Latvian State University
(Latviyskiy gosudarstvennyy universitet)

SUBMITTED: December 24, 1956

AVAILABLE: Library of Congress

Card 3/3

1. Chemistry 2. Sulfones

AUTHORS: Bankovskiy, Yu. A., Iyevin'sh, A. P.,
Luksha, E. A. SOV/79-28-8-58/66

TITLE: A Simplified Method for Synthesizing 8-Mercaptoquinoline
(Thioxine) and Its Potassium and Sodium Salts (Uproshchennyy
metod sinteza 8-merkaptokhinolina (tioksina) i polucheniye
yego kaliyevoy i natriyevoy soley)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8,
pp. 2273 - 2276 (USSR)

ABSTRACT: Thioxine was first synthesized by Edinger (Edinger)(Ref 1).
As the authors showed, this reagent appears to be a very
valuable reagent for the qualitative and quantitative de-
termination of trace amounts of palladium, copper, molybdenum,
rhenium manganese, and other elements. Earlier, one of the
authors (Ref 2) had refined the carrying out of a single
intermediate stage in the Edinger thioxine synthesis. In this
synthesis the production of an intermediate product, the
benzoyl derivative of thioxine, is not easy. It was shown by
the authors that this intermediate step can be by-passed. To do
this, only the sodium salt of thioxine is needed; this salt
forms by reacting the alkali base with the chloro-tin salt(I).

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A Simplified Method for Synthesizing 8-Mercaptoquinoline SOV/79-28-8-58/66
(Thioxine) and Its Potassium and Sodium Salts

The sodium salt is oxidized with hydrogen peroxide to the disulfide (II), which precipitates out of the alkaline solution. The disulfide can be easily purified and reduced to the thioxine (III). The most convenient and energetic reducing reagent appeared to be hypophosphoric acid (potassium hypophosphite in hydrochloric acid solution). This reaction occurs without the formation of by-products (see the reaction scheme). The synthesized potassium salt of thioxine can be stored without decomposition. The composition of the potassium and the earlier synthesized sodium salt was established. The reduction of the disulfide to thioxine and the synthesis of its potassium and sodium salts are described in the experimental section. There are 8 references, 0 of which is Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR (Institute of Chemistry, AS Latvian SSR)

SUBMITTED: June 19, 1957
Card 2/3

A Simplified Method for Synthesizing 8-Mercaptoquinoline (Thioxine) and Its Potassium and Sodium Salts SOV/79-28-8-58/66

Card 3/3

1/26/68

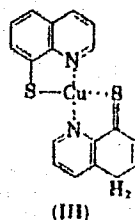
1
Analytical use of 8-mercaptoquinoline (thioxine) and its derivatives. XII. Composition and structure of copper thioxinate, $C_{11}H_{10}CuN_2S_2$. J. Bankovskis, A. Irving, and E. Luksa. *Lateijos PSR Zindhu Akad. Viena* 1966, No. 4, 81-8 (in Russian); cf. C.A. 53, 12844h. The Cu thioxinate chelate (I) was prep. by 3 different methods from various derivs. of 8-mercaptoquinolines (II): (1) from II hydrate with Cu^+ ; (2) from II hydrate and Cu^{++} , and (3) from II disulfide with Cu^+ . All samples of I obtained were water insol. and had the same elemental compn. Their $CHCl_3$ solns. had an absorption max. at 432 m μ , and the mol. extinction coeff. were 9600, 9550, and 9500, resp., for the 3 samples. Each Cu^+ required 2 mols. of II to form one mol. of I, while each Cu^{++} required 3 mols. of II, one of which serves to reduce Cu^{++} to Cu^+ . The only structure of I which is in agreement with all observed properties is of cuprous thioxinate chelate (III) a coordinated compd., where univalent Cu ion has the rare coordination number of 4.

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1/1

A. Gaydach

72

5(2)

AUTHORS: Shvarts, Ye. M., Ievins^Y, , A. F.

SOV/78-4-1-17/48

TITLE: IV. Boron Ditartrates of Calcium and Barium (IV. Boroditartraty kal'tsiya i bariya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 82-84 (USSR)

ABSTRACT: The synthesis of barium and calcium boron ditartrate was described. The precipitates obtained at pH 8 are of the following compositions: $5\text{CaO} \cdot \text{B}_2\text{O}_3 \cdot 4\text{C}_4\text{H}_4\text{O}_5 \cdot 16\text{H}_2\text{O}$ and $5\text{BaO} \cdot \text{B}_2\text{O}_3 \cdot 4\text{C}_4\text{H}_4\text{O}_5 \cdot 10\text{H}_2\text{O}$. The specific gravity of calcium-boron ditartrate was pyknometrically measured in toluene at 25°. The specific gravity of calcium-boron ditartrate is 1.62 g/cm³, and of barium-boron ditartrate 2.21 g/cm³. The solubility of calcium-boron ditartrate at 25° is 2.46 g/l H₂O, and of barium-boron ditartrate 0.7 g/l H₂O. The dehydration curves of the preparations (up to constant weight) were determined for temperatures of 60, 80, 100, 150, 180, 220, 250, and 280°. At temperatures higher than 280° decomposition of the compounds takes place. The thermo-

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SOV/78-4-1-17/48

IV. Boron Ditartrates of Calcium and Barium

gram of calcium-boron ditartrate shows an endothermic effect at $40-291^{\circ}$ which indicates dehydration. At $366-517^{\circ}$ a strong exothermic effect occurs indicating the decomposition of the tartrates. The exothermic effect at $577-579^{\circ}$ is not clear. The thermogram of barium-boron ditartrate shows two endothermic effects at $40-164^{\circ}$ and $164-236^{\circ}$ indicating dehydration. At $328-454^{\circ}$ an exothermic effect occurs which indicates the decomposition of tartrate. The endothermic effect at $576-658^{\circ}$ is not clear. There are 3 figures and 3 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR (Institute of Chemistry of the Academy of Sciences, Latvian SSR)

SUBMITTED: July 11, 1957

Card 2/2

1 YEVINSH. A. F.

5(2)

SOV/78-4-1-18/48

AUTHORS:

Shvarts, Ye. M., Ievins³ A. F., Zil'ber, M. L.

TITLE:

Ammonium-cadmium Boron Tartrate (Borotartrat ammoniya-kadmiya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 85-87 (USSR)

ABSTRACT:

The synthesis of ammonium-cadmium boron tartrate obtained by mixing solutions of cadmium nitrate, tartaric acid and boric acid in the molar ratio of 1:1:1, 1:2:1, 1:1:2, 1:3:1, 1:4:1 is described. With tartaric acid and boric acid being in the ratio of 1:1 and 1:2 and ammonium chloride being present in the solution, the compound $\text{Cd}(\text{NH}_3)_2\text{Cl}_2$ was separated out at pH 8 in the form of large crystals. In the remaining ratios ammonium-cadmium boron tartrate is formed in the form of long needles: $2(\text{NH}_4)_2\text{O} \cdot \text{CdO} \cdot \text{B}_2\text{O}_3 \cdot 2\text{C}_4\text{H}_4\text{O}_5 \cdot 5\text{H}_2\text{O}$. Several properties of this compound were investigated. The solubility of this compound in water is 13.96 g/l at 25°. The specific gravity is 1.95 g/cm³ at 25°. The dehydration and the ammonia separation were investigated at 50, 80, 100, 120, 150, 180, 200 and 250°. At 250° the compound decomposes. The thermogram of ammonium-cadmium

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SOV/78-4-1-18/48

Ammonium-cadmium Boron Tartrate

boron tartrate was drawn. The thermal curve is characterized by an endothermic effect at $63-226^{\circ}$, an endothermic effect at 261° , and an exothermic effect at 611°C . There are 3 figures and 7 references. 6 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latviyskoy SSR (Institute of Chemistry of the Academy of Sciences, Latvian SSR)

SUBMITTED: October 7, 1957

Card 2/2

5(2)

SCV/78-4-7-19/44

AUTHORS: Ozol, Ya. K., Ievin'sh, A. F.

TITLE: The Tetrahydrate of the Strontium Diborate $\text{SrB}_2\text{O}_4 \cdot 4\text{H}_2\text{O}$ (Tetra-
gidrat diborata strontsiya $\text{SrB}_2\text{O}_4 \cdot 4\text{H}_2\text{O}$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7,
pp 1587-1589 (USSR)

ABSTRACT: A method of producing the compound mentioned in the title in well-developed crystals is suggested according to the reaction $\text{SrCl}_2 + \text{Na}_2\text{B}_4\text{O}_7 + 2\text{NaOH} + 3\text{H}_2\text{O} = \text{SrB}_2\text{O}_4 \cdot 4\text{H}_2\text{O} + 2\text{NaBO}_2 + 2\text{NaCl}$. The diborate crystallizes in two modifications, a monoclinic and a triclinic one (Fig 3). The analytical composition of the crystals is given in table 1. The thermograms recorded by A. Vayvad show a very similar development for both modifications. X-ray pictures are made of both crystal modifications and the lattice constants are calculated. The results obtained by goniometric measurement are given in table 3. There are 3 figures, 3 tables, and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR (Institute for Chemistry of the Academy of Sciences of the Latvian SSR)

SUBMITTED: April 20, 1958
Card 1/1

5(2)

AUTHORS:

Shvarts, Ye. M., Iyevin'sh, A. F. (Ievinš, A.F.)

SOV/78-4-8-21/43

TITLE:

On the Complex Character of the Ions of Borotartrates in Aqueous Solution (O kompleksnom kharaktere ionov borotartratov v vodnom rastvore)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1835-1838 (USSR)

ABSTRACT:

The authors synthesized the following crystallizing borotartrates: $K_2O \cdot 2SrO \cdot B_2O_3 \cdot 2C_4H_4O_5 \cdot 10H_2O$; $(NH_4)_2O \cdot 2SrO \cdot B_2O_3 \cdot 2C_4H_4O_5 \cdot 10H_2O$; $K_2O \cdot 2CdO \cdot B_2O_3 \cdot 2C_4H_4O_5 \cdot 6H_2O$; $2K_2O \cdot CdO \cdot B_2O_3 \cdot 2C_4H_4O_5 \cdot 2H_2O$; $2(NH_4)_2O \cdot CdO \cdot B_2O_3 \cdot 2C_4H_4O_5 \cdot 5H_2O$ and the boroditartates $2(NH_4)_2O \cdot 3SrO \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 10H_2O$; $2(NH_4)_2O \cdot 3CaO \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 10H_2O$; $5CaO \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 16H_2O$; $5BaO \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 10H_2O$; $5Na_2O \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 12H_2O$ and $5Li_2O \cdot B_2O_3 \cdot 4C_4H_4O_5 \cdot 6H_2O$. Some of these compounds contain two different metals. The problem was whether the metal or the boron forms the complex anion with tartaric acid. The aqueous solution of the compound was

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SOV/78-4-8-21/43

On the Complex Character of the Ions of Borotartrates in Aqueous Solution

cryoscopically investigated, moreover, the specific and molar conductivity was measured and the mobility and the conductivity of the anion were computed (Tables 1-6). The following was found: boric acid forms the complex anions $[BO_2 \cdot C_4H_4O_6]^{5-}$ and $[BO_2 \cdot 2C_4H_4O_6]^{5-}$ with tartrates. The complex anions of the boroditartrates are stable only in concentrated solution. When diluted they decompose according to the scheme:
 $[BO_2 \cdot 2C_4H_4O_6]^{5-} \rightleftharpoons [BO_2 \cdot C_4H_4O_6]^{3-} + C_4H_4O_6^{2-}$. The monotartrate complexes are more stable. There are 2 figures, 6 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latvyskoy SSR (Chemical Institute of the Academy of Sciences of the Latvian SSR)

SUBMITTED: April 24, 1958

Card 2/2

LYEVINS, A

[illegible]

7
-113 (vib)

GUDRINIYETSE, E. [Gudriniece, E.] (Riga); IYEVINISH, A. [Ievins, A.] (Riga);
VANAG, G. [Vanags, G.] (Riga); KURGAN, D.

Research in the field of cyclic arylazo-~~3~~-diketones. IV. Metallic
complexes of phenylazodimedons. Vestis Latv ak no.9:101-105 '59.
(EKA 9:10)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.
(Aryl groups) (Ketones) (Dimethylcyclohexanedione)
(Metals) (Phenyl group) (Azo compounds)
(Complex compounds) (Nickel) (Cobalt)
(Copper) (Silver)

GUDRINIECE, E.(Riga); LEVIN'SH, A. (Riga); VANAG, G. [Vanags, G.] (Riga);
NATELIS, L. [Nakele, L.] (Riga); KREILE, L. (Riga)

Research in the field of cyclic arylazo- β - diketones. V. Metal
complexes of 2-phenylazoindendiones-1,3. Vestis Latv ak no.10:
107-113 '59. (EEAI 9:10)

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.
(Aryl groups) (Ketones) (Metals)
(Cyclic compounds) (Phenylazoindzndione)
(Complex compounds)

BANKOVSKIY, Yu. (Riga); Ievin'sh, A. [Ievins, A.] (Riga); LOKENBAKH, A.
(Riga); ZARUMA, D. (Riga)

Zinc thiooxinate. Vestis Latv ak no.10:115-121 '59. (BEAI 9:10)
(Zinc)

IYEVINSH, A. F.

5(2), 5(3), 5(4)

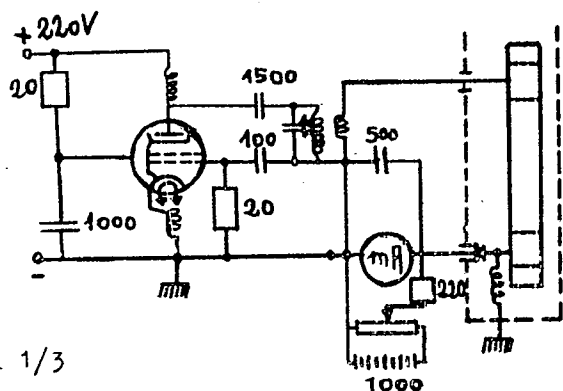
AUTHORS: Veys, A. R., Ievinsh, A. F.

SOV/75-14-1-32/32

TITLE: The Determination of Thallium by High-Frequency Titration With Sodium Boron Tetraphenyl (Opredeleniye talliya vysokochastotnym titrovaniyem tetrafenilbornatriyem)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 143-144 (USSR)

ABSTRACT:



Circuit diagram for high-frequency titration

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The Determination of Thallium by High-Frequency
Titration With Sodium Boron Tetraphenyl

SOV/75-14-1-32/32

According to Geilmann (Ref 1) the solubility of thallium-boron tetraphenyl at 20° is 5-6 g in 100 ml. The authors of the present paper investigated the possibility of a high-frequency titration of thallium with sodium boron tetraphenyl. For this purpose the scheme developed by Blake (Ref 4) was used, which was improved by Resnays (Ref 5). The amperage of the high-frequency current passing through the titration cell is measured (see figure). After passage through the cell the high-frequency current is rectified by means of a germanium diode and is measured by means of a milliammeter. Frequency amounted to ~14 megacycles, so that it was possible to work in solutions with concentrations of up to 0.25 m. The reagent was added from a semimicro-buret (accuracy ±0.005 ml). Mixing of the solutions was carried out by means of a mechanical stirring device. The point of equivalence was graphically determined. The smaller its resistance in the case of a given sensitivity of the galvanometer, the greater will be the sensitivity of the apparatus if the concentration of the electrolyte is increased. An 0.2 m solution of sodium boron tetraphenyl was used for titration, to which 2 g of aluminum

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The Determination of Thallium by High-Frequency
Titration With Sodium Boron Tetraphenyl

SOV/75-14-1-32/32

oxide hydrate was added per 100 ml for the purpose of eliminating insoluble impurities. The solution was mixed for one hour and then filtered. A solution prepared in this manner retains its titer for several months if kept in a firmly closed vessel. The titer was determined by high-frequency titration with a potassium chloride solution. Thallium was put in in form of a 0.1 n Tl_2SO_4 -solution. The presence of sodium-, zinc-, cadmium-, and copper salts does not interfere with thallium determination. Determination carried out by this method is possible both in the case of weakly acid and in that of alkaline solutions. There are 2 figures, 1 table, and 6 references, 3 of which are Soviet.

ASSOCIATION: Latviyskiy gosudarstvennyy universitet, Riga (Latvian State University, Riga)

SUBMITTED: September 30, 1957

Card 3/3

USCOM-DC-60,539

5(2), 5(3)
AUTHORS:

Bankovskiy, Yu. A., Iyevin'sh, A. F., Luksha, E. A.
SOV/75-14-2-14/27

TITLE:

Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives (Analiticheskoye primeneniye 8-merkaptokhinolina (tioksina) i yego proizvodnykh). Communication 4. Photometric Determination of Small Amounts of Manganese (Sobshcheniye 4. Fotometricheskoye opredeleniye malykh kolichestv margantsa)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 2, PP 222-226 (USSR)

ABSTRACT:

In alkaline and ammoniacal solutions bivalent manganese reacts in the presence of tartrates and citrates with thiooxine under the formation of an inner complex salt of dark brown color. The preparation of this salt in pure form is described in this paper. Manganese thiooxinate $Mn(C_9H_6NS)_2$ is insoluble in water, with dark brown color, however, well soluble in most of the organic solvents. In carbon disulphide and carbon tetrachloride the compound is very difficultly soluble, and in aliphatic hydrocarbons it is insoluble. Ex-

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SOV/75-14-2-14/27

Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication 4. Photometric Determination of Small Amounts of Manganese

tracts of manganese thiooxinate are stable for two days in toluene, benzene, chlorobenzene, and xylene. At a longer storing the extinction of the extracts decreases. Solutions of the complex in chloroform or bromoform are less stable. The complex is stable only in alkaline solutions and can be extracted only at $\text{pH} > 7$. Two maxima are observed in the absorption spectrum of manganese thiooxinate: $\lambda_1 = 250 \text{ m}\mu$

(molar extinction coefficient $\epsilon_1 = 34000$) and $\lambda_2 = 413 \text{ m}\mu$ ($\epsilon_2 \sim 7000$). The solutions of the complex in carbon

tetrachloride are subject to Beer's law in the case of amounts of $< 4 \gamma \text{ Mn}$ in 1 ml CCl_4 . Alkali and alkaline earth metals,

Al, Cr, Zr, Th, Ti, La, and other elements forming unstable sulfides in water do not disturb the determination of manganese. Since the reaction of manganese with thiooxine takes place in an alkaline medium, it is not very specific because all elements which form sulfides stable in water are precipitated as sulfides in alkaline solution with thiooxine. Iron, cobalt, nickel, palladium, copper, molybdenum, antimony, arsenic,

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SOV/75-14-2-14/27
Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication 4. Photometric Determination of Small Amounts of Manganese

tungsten, and rhenium, may, if they have low valences, be masked by potassium cyanide. The cyanide complex of manganese is so little stable at pH 10 that it is destroyed by thiooxine. The masking of iron as $[\text{Fe}(\text{CN})_6]^{4-}$ is attained only under certain conditions: iron must be completely bivalent and the pH value of the solution must be 9.5 - 10.5 in the masking. Silver and gold are reduced to metals in alkaline solution and do not inhibit the determination of γ -amounts of manganese, nor do iridium and osmium in mg-amounts disturb the determination. Amounts of about 20 mg platinum cause an intense blue coloration of the extract. Lead, zinc, cadmium, thallium, vanadium, and tin disturb the determination. The devised photometric method of determining manganese is described in detail in this paper as well as the production of the solution of the reagent. Using the method described still 1.5 γ manganese in a 5 ml extract may be determined by means of an SF-4 spectrophotometer with satisfactory accuracy. Using a Pulfrich photometer amounts of manganese of 3 γ in

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SOV/75-14-2-14/27
Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives.
Communication 4. Photometric Determination of Small Amounts of Manganese

50 - 100 ml solution may be determined. The results of the determination of manganese in the presence of various elements are summarized in a table. There are 3 figures, 1 table, and 15 references, 7 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Latviyskoy SSR, Riga
(Institute of Chemistry of the Academy of Sciences, Latvian SSR, Riga)

SUBMITTED: June 19, 1957

Card 4/4

YEVINSH, A. F.

5(2)

AUTHORS:

Bankovskiy, Yu. A., Shvarts, Ye. M., SOV/75-14-3-10/29
Ievins, A. F.

TITLE:

Analytical Application of 8-Mercapto Quinoline
(Thiooxine) and Its Derivatives (Analiticheskoye primeneniye
8-merkaptokhinolina - tioksina - i yego proizvodnykh).
Communication 5. Photometric Determination of Molybdenum
(Soobshcheniye 5. Fotometricheskoye opredeleniye molibdena)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3,
pp 313-317 (USSR)

ABSTRACT:

Thiooxine reacts both in weakly and strongly acid solution
with molybdates under formation of compounds insoluble in
water. Under certain conditions the green $\text{MoO}_2(\text{C}_9\text{H}_6\text{NS})_2\text{H}_2\text{O}$
is formed which dissolves in organic solvents with emerald
coloration. In the presence of ascorbic acid a pronounced
adsorption maximum is formed at 420 mμ. The molar extinction
coefficient is 8,600. Figure 3 shows that the toluene extract
of the molybdenum thiooxinate obeys Beer's law. An excess of
Fe, Co, Ni, Zn, Cd, Pb, Mn, U, Tl, Ir and Rh does not
influence the determination. Bi, Ag, Au, Hg and W form

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Analytical Application of 8-Mercapto Quinoline
(Thiooxine) and Its Derivatives. Communication 5.
Photometric Determination of Molybdenum

SOV/75-14-3-10/29

voluminous amorphous precipitates which are insoluble in toluene and xylene and must therefore be masked like Os, Ru, Cu, Pt and Pd what is done with thiourea. The determination of molybdenum according to this method is possible up to a molybdenum content of 1.5 - 200%. There are 3 figures, 2 tables, and 11 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii AN Latvyskoy SSR, Riga (Institute of Chemistry of the Academy of Sciences of the Latvian SSR, Riga)

SUBMITTED: May 19, 1957

Card 2/2

5 (3)

AUTHORS:

Yanson, E. Yu., Iyevin'sh, A. F.

SOV/74-28-8-5/6

TITLE:

Tetraphenylborates and Their Application in Analytical Chemistry
(Tetrafenilboraty i ikh primeneniye v analiticheskoy khimii)

PERIODICAL:

Uspekhi khimii, 1959, Vol 28, Nr 8, pp 980-989 (USSR)

ABSTRACT:

This is a survey of the papers published in the past ten years in the field of the synthesis and application of tetraphenylborates. Ten years ago Vittig synthesized the first tetraphenylborate in the course of his search for new complex boron-organic compounds. (Refs 1, 2). Ever since they have been used increasingly in analytical chemistry (Refs 3-21). At present almost exclusively the sodium salt is used as an analytical reagent. It can be synthesized in two ways: in the first case the initial substance is a molecular compound of boron trifluoride with ether $\text{BF}_3 \cdot \text{O}(\text{C}_2\text{H}_5)_2$ (Refs 22-25); in the second case the initial substance is sodium fluoborate which reacts with a phenyl-magnesium bromide solution, whereby the sodium tetraphenylborate is formed (Ref 26). The rest of the tetraphenylborates form on account of a double exchange from the sodium salt. The properties of tetraphenylborates were investigated in detail in

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Tetraphenylborates and Their Application in Analytical Chemistry SOV/74-28-8-5/6

the following papers: stability of aqueous tetraphenylborate solutions in references 27-29; solubility of tetraphenylborates in references 30-53; thermostability in references 30, 54-57. Crystallographically tetraphenylborates of ammonium, potassium, rubidium, and cesium belong to the "planaxial" class of tetragonal syngony. On the basis of X-ray photographic investigations it was found (Refs 52, 53) that their elementary cells (with the exception of the cesium salt) contain four molecules. The application of tetraphenylborates in qualitative reactions is described in references 58-67. In the case of gravimetric methods such tetraphenylborates can be used as exhibit a solubility low enough to result, practically speaking, in a complete separation of the cation in question from the solution. Furthermore, the tetraphenylborate obtained must not decompose when drying. The bulk of the papers dealing with the weight analysis by means of tetraphenylborates is devoted to the determination of potassium (Refs 31, 45, 59, 68-92). Errors in the determination of potassium do not exceed 1%. The methods for the weight determination of ammonium (Ref 68), rubidium, cesium (Ref 45), and thallium (Ref 30) are identical with the method for the determination of potassium.

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Tetraphenylborates and Their Application in Analytical Chemistry SOV/74-28-8-5/6

Almost all volume methods necessitate a previous precipitation and separation of the insoluble tetraphenylborate. Different volume methods are described in references 24, 25, 48, 49, 71, 75, 82, 93-134. By means of sodium tetraphenylborate basic nitrogen-containing substances are precipitated from organic substances: amines, alkaloids, some anesthetics and pharmaceutical products. The criterion for such a precipitation is the capacity of the substance in question to form salts with acids (Refs 64, 135). However, all tetraphenylborates cannot be used for analytical purposes. Some of them are not suitable on account of their high solubility in water or because of insufficient thermostability. References 50, 51, 94, 136-149 report on the use of tetraphenylborates in the analysis of organic substances. There are 149 references, 16 of which are Soviet.

ASSOCIATION: Rzhskiy Politekhnikheskiy in-t, khimicheskii fakul'tet (Riga Polytechnical Institute, Dept. of Chemistry)

Card 3/3

5 (3)
 AUTHORS: Gudriniyetse, E. Yu., Iyevin'sh, A. P., SOV/79-29-3-44/61
 Varag, G. Ya.

TITLE: Sulfonation of β -Diketones (Sul'firovaniye β -diketonov).
 IV. 5,5-Dimethylcyclohexanedione-1,3-sulfo-2-acid and Its Salts
 (IV. 5,5-Dimetiltsiklogeksandion-1,3-sul'fo-2-kislota i yeye
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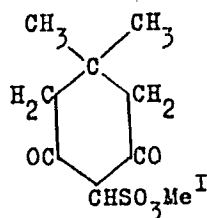
PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 959-963 (USSR)

ABSTRACT: The sulfonation of β -diketones with dioxane sulfotrioxide
 (Refs 1,2) takes place easily, as well as with 98 % H_2SO_4 in
 the presence of acetic anhydride (Refs 3,4). In the work under
 review the authors continued this sulfonation and their
 attention was specially attracted by the salts of the above
 acid (dimedon sulfo acid). Besides the acid, two series of
 its salts were synthesized, with an equivalent of the metal (I)
 and with two equivalents (II)

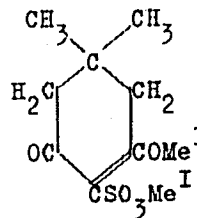
Card 1/3

Sulfonation of β -Diketones. IV. 5,5-Dimethylcyclohexanedione-1,3-sulfo-2-acid and Its Salts

SOV/79-29-3-44/61



(I)



(II)

The acid is obtained in crystalline form. Dimedon is formed by heating with hydrochloric acid. Ammonium-, sodium-, magnesium-, calcium-, strontium-, barium-, nickel-, and cobalt salts, with an equivalent of the metal, were obtained by saturation of the aqueous solution of dimedon sulfo acid with the corresponding chloride. All metal salts, with the exception of nickel- and cobalt salt, are obtainable in crystals and are soluble in water. The aqueous solution of the salts with an equivalent of the metal has an acid reaction. The dissolved dimedon sulfo acid yields sulfo salts with organic bases (e.g. with aniline,

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Sulfonation of β -Diketones. IV. 5,5-Dimethylcyclohexanedione-1,3-sulfo-2-acid and Its Salts SOV/79-29-3-44/61

pyridine, and quinoline). With the same ease it forms salts of the enol form (II). These salts are obtained by neutralizing the aqueous solution of the sulfo acid with carbonates or hydroxides until the weakly acid or neutral reaction. The salts of alkaline and alkaline-earth metals, as well as those of copper, zinc, and manganese, have an alkaline or neutral reaction in aqueous solutions, depending on the properties of the cation. The ammonium salt of the enol form could not be obtained. As is the case with other sulfo acids, the reaction of the dimedon sulfo acid with S-benzylthiouronium chloride leads to the benzylthiouronium salt (III). There are 1 table and 5 references, 3 of which are Soviet.

ASSOCIATION: Latviyskiy gosudarstvennyy universitet (Latvian State University)

SUBMITTED: January 16, 1958

Card 3/3

GUDRINIETSE, E. [Gudriniece, E.] (Riga); IYEVIN'SH, A. [Ievins, A.] (Riga);
VANAG, G. [Vanags, G.] (Riga); BRUNERE, V. (Riga); BANKOVSKIY, Yu.
[Bankovskis, J.] (Riga)

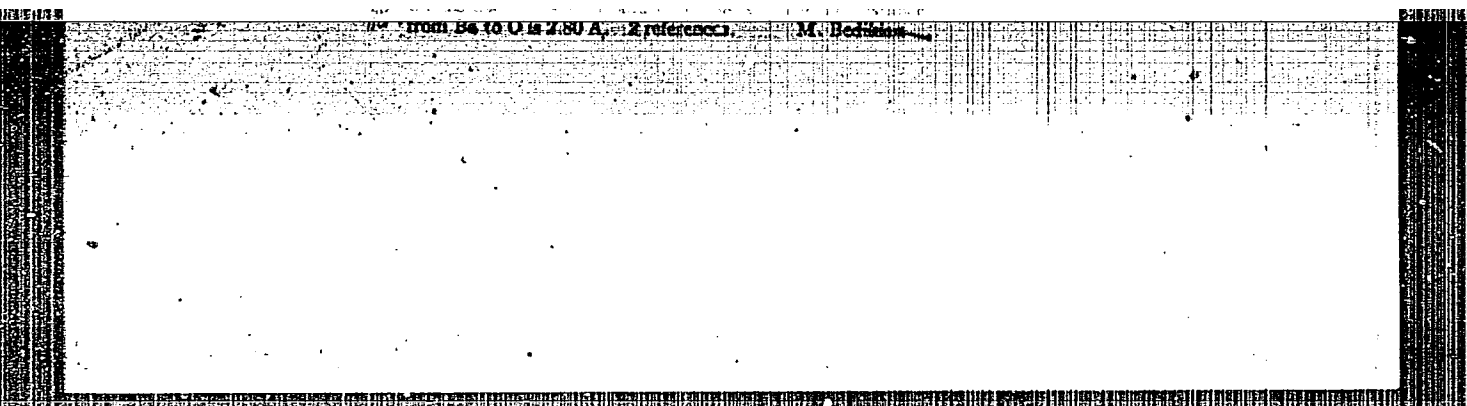
Sulfonation of β -diketones. IX. Indandione-1,3-disulfo-2,2-acid
and its salts. In Russian. Vestis Latv ak no.3:103-106 '60.
(EEAI 10:7)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.
(Ketones) (Sulfonation) (Indandisulfonic acid)

✓ The structure of barium chlorate, J. J. Clark, J. Vamba and A. J. Lewis, Invent. Pat. Pending (and prior 1968)
No. 1,234,567, Barium Chlorate, Barium Chlorate, Barium Chlorate

"APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000619320018-1



APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000619320018-1"

IEVIN'SH, A. [Ievins, A.] (Riga); ZIL'BER, M. [Zilbers, M.] (Riga);
SHVARTS, E. [Svarce, E.] (Riga)

Borotatrate of zinc. In Russian. Vestis Latv ak no.4:105-108
'60. (REAI 10:7)

1. Akademiya nauk Latviyskoy SSR, Institut khimii.
(Zinc) (Borotatrates)

EYDUK, Yu. [Eiduks, J.] (Riga); IEVIN'SH, A. [Ievins, A.] (Riga); OZOLS, Ya.
[Ozols, J.] (Riga)

Chemical and rational analyses of some typical Latvian SSR clays
and their fractions. In Russian. Vestis Latv ak no.5:97-104
'60. (EEAI 10:7)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.
(Latvia--Clay)

GUDRINIYETSE, E. [Gudriniece, E.] (Riga); LEVIN'SH, A. [Levins, A.] (Riga);
VANAG, G. [Vanags, G.] (Riga); STIPNIYETSE, M. [Stipniece, H.] (Riga);
MATEUS, E. [Mateuss, E.] (Riga)

Sulfonation of β -diketones. XIII. Salts of 5-phenylcyclohexanedione-
1, 3-sulfo-2-acid (phenidonsulfo-2-acid. Vestis Latv ak no. 8:95-98
'60. (EKAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut khimiyi.

(Ketones)	(Sulfonation)	(Phenylcyclohexanedione)
	(Phenidone)	(Sulfonic acids)

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SHVARTS, Ye. [Svarca, E.] (Riga); IYEVIN'SH, A. [Ievins, A.] (Riga); ZIL'BER, M.
[Zilbere, M.] (Riga)

Boron tartrates of ammonium-zinc. Vestis Latv ak no.10:87-90 '60.
(EEAI 10:9:10)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.

(Tartrates) (Ammonium compounds) (Zinc oxide)

BANKOVSKIY, Yu.[Bankovskis, J.] (Riga); MISULOVINA, Z. (Riga);
IYEVIN'SH, A.[Ievins, A.] (Riga); BUKA, M.

8-mercaptomethylquinoline and its interaction with metal ions.
Vestis Latv ak no.11:103-106 '60. (EEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.

(Methylmercaptoquinoline) (Ions) (Metals)

OZOLIN'SH, G.[Ozolins, G.](Riga); IYEVIN'SH, A.[Ievins, A.](Riga)

Use of extrapolation in the pictures taken by the asymmetrical method;
determination of constant silicon lattice. Vestis Latv ak no.12:
61-68 '60. (NEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.

(Lattice theory) (Silicon)

BANKOVSKIY, Yu. [Bankovskis, J.] (Riga); FEDOTOVA, L. (Riga); IYEVIN'SH, A.
[Ievins, A.] (Riga)

ω, ω -diquinaldildisulfate and its reaction with metal ions. Vestis
Latv ak no.12:69-74 '60. (EEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut khimii.

(Quinaldil) (Disulfide group) (Ions)

SEVARTS, Ye.M.; IYEVIN'SH, A.F.

Hexaborate of divalent iron. Zhur. neorg. khim. 5 no.8:1676-1677
Ag '60. (MIRA 13:9)

1. Institut khimii Akademii nauk Latvyskoy SSR.
(Iron borate)

5.5300

77739

SOV/75-15-1-1/29

AUTHORS: Bankovskiy, Yu. A., Iyevin'sh, A. F., Llyepinya, Z. E.

TITLE: Analytical Application of 8-Mercaptoquinoline (Thiooxine) and Its Derivatives. Communication 10. Relative Stability of Thiooxinates and the Influence of Complexing Agents on the Reaction of Thiooxine With Cations

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1, pp 4-9 (USSR)

ABSTRACT: A relative stability of thiooxinates of different elements and the relation between the thiooxinates and different complexing agents was studied. Parallel determinations of the relative stability of thiooxinates of different elements were made by three different methods: substitution, rate of thiooxinate formation, and the limits of thiooxinate extraction. It was found that the investigated thiooxinates form a following series, according to their stability:

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Analytical Application of 8-Mercaptoquino-
line (Thiooxine) and Its Derivatives.
Communication 10. Relative Stability of
Thiooxinates and the Influence of Complex-
ing Agents on the Reaction of Thiooxine
With Cations

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SOV/75-15-1-1/29

Re > Au > Ag > Hg > Pd > Pt > Ru > Os > Mo > Cu > W > Cd >
In > Zn > Fe > Ir > V > Co > Ni > As > Sb > Sn > Bi > Pb > Mn > Tl.

This series is only approximate, since the methods used do not always give reproducible results. The corrections may be made after the dissociation constants of the thiooxinates are determined. Reaction between the thiooxinates and H_2S at different pH was studied in order to

show that the stability of thiooxinates depends not only on the metal-sulfur bond, but also on the strength of the metal-nitrogen bond. The results are shown in Table 1. Experiments were conducted in order to compare the stability of oxinates and thiooxinates. It was found that in acid and alkaline media, the thiooxinates, which

Card 2/5